WHAT IS CLAIMED IS:

1. A liquid crystal display elements driving method for causing liquid crystal display elements to display gray shades by using a plurality of scanning electrodes, a prescribed number of liquid crystal display elements arranged for each of the plurality of scanning electrodes, and a prescribed number of signal electrodes that cross the plurality of scanning electrodes and correspond to the prescribed number of liquid crystal display elements, comprising:

simultaneously applying scanning signals of one of three predetermined voltages to three scanning electrodes and thereby simultaneously selecting the prescribed number of liquid crystal display elements arranged for each of the three scanning electrodes, the one voltage being determined according to an orthogonal function that prescribes voltages to be applied to the plurality of scanning electrodes; and

applying a data signal of one of the three voltages to each of the prescribed number of signal electrodes, the one voltage being determined according to display data that prescribe gray shades.

2. The liquid crystal display elements driving method according to claim 1, maximum and minimum voltages of the three voltages having the same amplitude and opposite polarities.

3. An electronic apparatus that can perform the liquid crystal display elements driving method according to claim 1.

4. A liquid crystal display device in which a plurality of scanning electrodes and a plurality of signal electrodes are arranged so as to cross each other, the scanning electrodes are divided into groups each consisting of n ($n \geq 2$) scanning electrodes that are selected simultaneously, and selection among the scanning electrodes is performed group by group, wherein

selection signals that are orthogonal to each other in a certain period are applied simultaneously to the scanning electrodes belonging to the same group, the number of drive potential levels is three, and a maximum voltage amplitude given to the scanning electrodes is set equal to a maximum voltage amplitude given to the signal electrodes.

5. The liquid crystal display device according to claim 4, wherein the first or second potential is applied to the signal electrodes so that a voltage applied to a crossing portion of each of the scanning electrodes and each of the signal electrodes becomes a favorable voltage to display data for the crossing portion p times ($p > (n + 1)/2$) and becomes an unfavorable voltage to the display data ($n + 1 - p$) times.

6. The liquid crystal display device according to claim 5, wherein the number p of times the favorable voltage is applied is equal to the number n of scanning electrodes of each group.

7. The liquid crystal display device according to claim 4, wherein the first potential and the second potential have opposite polarities and the same absolute value with respect to an average value of potentials applied to the respective scanning electrodes.

8. The liquid crystal display device according to claim 4, wherein each of the potentials is so set that a ratio of an on-voltage to an off-voltage of an effective voltage applied to a liquid crystal becomes greater than or equal to a ratio of a saturation voltage to a threshold voltage of the liquid crystal.

9. The liquid crystal display device according to claim 4, wherein the number of the scanning electrodes belonging to each group is three.

10. The liquid crystal display device according to claim 4, wherein the scanning electrode and the signal electrodes are cross-arranged so as to assume a multiple matrix.

11. A liquid crystal display device in which a plurality of scanning electrodes and a plurality of signal electrodes are arranged so as to cross each other, the scanning electrodes are divided into groups each consisting of n ($n \geq 2$) scanning electrodes that are selected simultaneously, and selection among the scanning electrodes is performed group by group, wherein

that a first potential or a second potential that is opposite in polarity to and has the same absolute value as the first potential with respect to an average of potentials applied to the respective scanning electrodes is selectively applied to the signal electrodes; and

that the first or second potential is selectively applied to a scanning electrode corresponding to a display position in a period when the first or second potential is applied to the signal electrodes.

12. The liquid crystal display device according to claim 4, wherein selection signals to be applied to the scanning electrodes of the same group are applied at a plurality of time points in one frame period.

13. The liquid crystal display device according to claim 4, wherein selection signals to be applied to the scanning electrodes of the same group are applied at once in one frame period.

14. A driving method of a liquid crystal display device in which a plurality of scanning electrodes and a plurality of signal electrodes are arranged so as to cross each other, the scanning electrodes are divided into groups each consisting of n ($n \geq 2$) scanning electrodes

that are selected simultaneously, and selection among the scanning electrodes is performed group by group, wherein

selection signals that are orthogonal to each other in a certain period are applied simultaneously to the scanning electrodes belonging to the same group, the number of drive potential levels is three, and a maximum voltage amplitude given to the scanning electrodes is set equal to a maximum voltage amplitude given to the signal electrodes.

15. The driving method of the liquid crystal display device according to claim 14, wherein the first or second potential is applied to the signal electrodes so that a voltage applied to a crossing portion of each of the scanning electrodes and each of the signal electrodes becomes a favorable voltage to display data for the crossing portion p times ($p > (n + 1)/2$) and becomes an unfavorable voltage to the display data ($n + 1 - p$) times.

16. The driving method of the liquid crystal display device according to claim 15, wherein the number p of times the favorable voltage is applied is equal to the number n of scanning electrodes of each group.

17. The driving method of the liquid crystal display device according to claim 14, wherein the first potential and the second potential have opposite polarities and the same absolute value with respect to an average value of potentials applied to the respective scanning electrodes.

18. The driving method of the liquid crystal display device according to claim 14, wherein each of the potentials is so set that a ratio of an on-voltage to an off-voltage of an effective voltage applied to a liquid crystal becomes greater than or equal to a ratio of a saturation voltage to a threshold voltage of the liquid crystal.

19. The driving method of the liquid crystal display device according to claim 14, wherein the number of scanning electrodes belonging to each group is three.

20. The driving method of the liquid crystal display device according to claim 14, wherein the scanning electrode and the signal electrodes are cross-arranged so as to assume a multiple matrix.

21. A driving method of a liquid crystal display device in which a plurality of scanning electrodes and a plurality of signal electrodes are arranged so as to cross each other, the scanning electrodes are divided into groups each consisting of n ($n \geq 2$) scanning electrodes that are selected simultaneously, and selection among the scanning electrodes is performed group by group, wherein

a first potential or a second potential that is opposite in polarity to and has the same absolute value as the first potential with respect to an average of potentials applied to the respective scanning electrodes is selectively applied to the signal electrodes; and

the first or second potential is selectively applied to a scanning electrode corresponding to a display position in a period when the first or second potential is applied to the signal electrodes.

22. The driving method of the liquid crystal display device according to claim 14, wherein selection signals to be applied to the scanning electrodes of the same group are applied at a plurality of time points in one frame period.

23. The driving method of the liquid crystal display device according to claim 14, wherein selection signals to be applied to the scanning electrodes of the same group are applied at once in one frame period.

24. A driving circuit of a liquid crystal display device which drives a liquid crystal display device in which a plurality of scanning electrodes and a plurality of signal electrodes are arranged so as to cross each other, the scanning electrodes are divided into groups each consisting of n ($n \geq 2$) scanning electrodes that are selected simultaneously, and selection among the scanning electrodes is performed group by group, wherein

selection signals that are orthogonal to each other in a certain period are applied simultaneously to the scanning electrodes belonging to the same group, the number of drive potential levels is three, and a maximum voltage amplitude given to the scanning electrodes is set equal to a maximum voltage amplitude given to the signal electrodes.

25. The driving circuit of the liquid crystal display device according to claim 24, wherein the first or second potential is applied to the signal electrodes so that a voltage applied to a crossing portion of each of the scanning electrodes and each of the signal electrodes becomes a favorable voltage to display data for the crossing portion p times ($p > (n + 1)/2$) and becomes an unfavorable voltage to the display data ($n + 1 - p$) times.

26. The driving circuit of the liquid crystal display device according to claim 25, wherein the number p of times the favorable voltage is applied is equal to the number n of scanning electrodes of each group.

27. The driving circuit of the liquid crystal display device according to claim 24, wherein the first potential and the second potential have opposite polarities and the same absolute value with respect to an average value of potentials applied to the respective scanning electrodes.

28. The driving circuit of the liquid crystal display device according to claim 24, wherein each of the potentials is so set that a ratio of an on-voltage to an off-voltage of an effective voltage applied to a liquid crystal becomes greater than or equal to a ratio of a saturation voltage to a threshold voltage of the liquid crystal.

29. The driving circuit of the liquid crystal display device according to claim 24, wherein the number of scanning electrodes belonging to each group is three.

30. The driving circuit of the liquid crystal display device according to claim 24, wherein the scanning electrode and the signal electrodes are cross-arranged so as to assume a multiple matrix.

31. A driving circuit of a liquid crystal display device which drives a liquid crystal display device in which a plurality of scanning electrodes and a plurality of signal electrodes are arranged so as to cross each other, the scanning electrodes are divided into groups each consisting of n ($n \geq 2$) scanning electrodes that are selected simultaneously, and selection among the scanning electrodes is performed group by group, wherein

that a first potential or a second potential that is opposite in polarity to and has the same absolute value as the first potential with respect to an average of potentials applied to the respective scanning electrodes is selectively applied to the signal electrodes; and

that the first or second potential is selectively applied to a scanning electrode corresponding to a display position in a period when the first or second potential is applied to the signal electrodes.

32. The driving circuit of the liquid crystal display device according to claim 24, wherein selection signals to be applied to the scanning electrodes of the same group are applied at a plurality of time points in one frame period.

33. The driving circuit of the liquid crystal display device according to claim 24, wherein selection signals to be applied to the scanning electrodes of the same group are applied at once in one frame period.